

## **AMENDMENTS TO THE CLAIMS**

The following listing of claims will replace all prior versions and listings of claims in the application.

### **LISTING OF CLAIMS**

1. (currently amended) An adaptive method for applying chirp to an optical signal traversing through an optical network, comprising:

applying chirp to an optical data signal at a transmitter in the optical network;

transmitting the optical data signal through the optical network, the optical data signal having error detection data embedded therein;

optimizing data recovery from the optical data signal at an egress point of the optical network prior to determining an error rate for the optical data signal;

determining the an error rate for the optical data signal at the an egress point of the optical network, where the error rate is based on the error detection data embedded in the optical data signal;

transmitting the error rate for the optical data signal to the transmitter; and

adjusting the chirp being applied to the optical data signal at the transmitter based on the error rate for the optical data signal.

2. (cancel)

3. (original) The method of Claim 1 wherein the step of applying chirp to an optical data signal further comprises using an external phase modulator.

4. (original) The method of Claim 1 wherein the step of applying chirp to an optical data signal further comprises dithering amplitude of the chirp applied to the optical data signal.

5. (original) The method of Claim 4 wherein the step of adjusting the chirp further comprises using feedback error control to minimize the error rate detected at the egress point.

6. (original) The method of Claim 1 wherein the step of applying chirp to an optical data signal further comprises dithering phase of the chirp applied to the optical data signal.

7. (original) The method of Claim 6 wherein the step of adjusting the chirp further comprises minimizing the error rate detected at the egress point through the use of feedback error control.

8. (original) The method of Claim 1 wherein the step of determining an error rate further comprises deriving the error rate from the number of corrected errors in a forward error correction scheme.

9. (original) The method of Claim 1 wherein the step of transmitting the error rate for the optical data signal further comprises using an optical supervisory channel to transmit the error rate.

10. (currently amended) An adaptive method for applying chirp to an optical signal traversing through an optical network, comprising:

applying chirp to an optical data signal at a transmitter in the optical network, the optical data signal having error detection data embedded therein;

dithering one of amplitude and phase of the chirp being applied to the optical data signal;

optimizing data recovery from the optical data signal at an ~~the~~ egress point of the optical network;

determining an error rate for the optical data signal at the ~~an~~ egress point of the optical network, where the error rate is based on the error detection data embedded in the optical data signal;

transmitting the error rate for the optical data signal to the transmitter; and

adjusting the chirp being applied to the optical data signal at the transmitter based on the error rate for the optical data signal

dithering the other of amplitude and phase of the chirp being applied to the optical data signal;

optimizing data recovery from the optical data signal at the egress point of the optical network;

determining an error rate for the optical data signal at the egress point of the optical network;

transmitting the error rate for the optical data signal to the transmitter; and

adjusting the chirp being applied to the optical data signal at the transmitter based on the error rate for the optical data signal.

11. (original) The method of Claim 10 wherein the step of transmitting the error rate for the optical data signal further comprises using an optical supervisory channel to transmit the error rate.

12. (original) The method of Claim 10 wherein the step of adjusting the chirp further comprises using feedback error control to minimize the error rate detected at the egress point.

13. (cancel)

14. - 19. (cancel)